

a pale dull yellow colour; an obscure line of the same hue extends from each of the latter nearly to the spinners, where the two meet, and between the former a reddish-brown protuberance is situated.

VIII.—*On some new British Hydroids.*

By the Rev. THOMAS HINCKS, B.A.

[Plate IX. vol. x. figs. 3, 4.]

Fam. Tubulariadae.

GENUS *ATRACTYLIS*, Strethill Wright.

A. margarica, n. sp. Pl. IX. fig. 4.

Polypary a network of delicate anastomosing tubes, from which rise at intervals small chitinous cups, somewhat funnel-shaped, which invest the base of the polypes and of the gonophores. *Polypes* white, scattered, slightly retractile; the body elongate, expanding towards the upper extremity, which is encircled by a verticil of about twenty-four muricate tentacles, alternately erect and depressed. Half of them are furnished near the base with a prominent cluster of large bean-shaped thread-cells, which projects outwards as a pearly boss or tubercle. This gem-like setting round the tentacular ring gives a very beautiful and distinctive appearance to the species. *Gonophores* produced on the creeping stem, close to a polype, either singly or in pairs, of large size, pedunculate, the pedicle tapering towards the point of attachment, and sheathed at the base in a chitinous tube, sub-globular, crowned by a kind of lid (Pl. IX. fig. 4 *b*), which seems to be cast off as development proceeds. From the bottom of the sporosac, which occupies the whole interior of the gonophore, rise four branched processes, of an orange-colour (representatives of the gæstrovacular canals), which, as it were, embrace the ova. The latter are produced in great numbers (300 in a single gonophore), and exhibit a very distinct vesicle and spot.

Habitat. Ilfracombe; abundant on *Flustra foliacea*, and on this only, from about 10 fathoms.

In this very singular and beautiful species, the character which at once attracts attention is the series of projecting bosses round the base of the tentacular ring. When examined with the microscope, these are seen to consist of a number of elongate bean-shaped thread-cells (fig. 4 *x*), which are piled together so as to form silvery-white prominences on the lower side of the tentacles. They occur, I believe, only on the alternate arms, and constitute a unique garniture.

The polypes, with their numerous tentacles, of moderate length, surrounding a large and expanded oral disk, bear some resemblance to a full-blown flower. When withdrawn, the arms bend inwards.

The gonophores, which are produced on the creeping stolon (fig. 4 e), rise, as the polypes do, from within a cup-like extension of the polypary. They are supported on a peduncle of some length, and, when fully developed, exceed the polypes considerably in size. I have not succeeded in making out all the details of the structure, nor in tracing the whole course of development. The sac which immediately contains the ova is enclosed in a more or less transparent envelope, which, at a certain stage, exhibits at the summit the appearance of a ribbed covering or lid. I conjecture that this lid is cast off, and that the outer envelope sloughs away, leaving the inner sac free for the discharge of the generative products. From the base of the sporosac proceed four much-branched vessels, terminating near the top of it in blind extremities, and immediately enclosing the ova, which fill with a dense mass the interior of the cavity. I have counted about 300, which had been pressed out of a single gonophore. The ovum consists of a cream-coloured granular substance, the germinal vesicle showing as a depression, and the spot as a circle with a raised rim.

I could detect no trace of a *manubrium*, nor did I witness the liberation of the reproductive elements.

The outer envelope of the gonophore is filled with the long bean-shaped thread-cells, which are also present in amazing numbers in the ectoderm of the *cœnosarc*.

All the known members of the genus *Atractylis* are propagated by means of free gonozooids, with the exception of *A. arenosa* and the present species.

Fam. Campanulariadae.

GENUS LAOMEDEA, Lamouroux.

L. fragilis, n. sp. Pl. IX. fig. 3.

Polypary very minute and delicate. Stem flexuose, giving off a branch at every flexure, which is annulated and tapers upwards, terminating in a much elongated and very narrow cell, with an even rim. The stem exhibits three or four rings (often very indistinct) above the origin of each branch.

Height about $\frac{1}{8}$ inch.

Habitat. In pools on the lower ledges of the Capstone, Ilfracombe, forming miniature groves on the under side of stones.

This species is smaller and more delicate in habit even than

the *L. neglecta* of Alder, and is as graceful in form as it is fairy-like in size. The markedly flexuose character of the stem, the great length and narrowness of the cells, the plain margin, and the Lilliputian size, are the distinctive points.

IX.—On the Transformations of the Porcellanæ.

By Dr. FRITZ MÜLLER, of Desterro*.

[Plate I.]

FOR two years I have been acquainted with a *Zoëa* which is distinguished from its allies by the want of the dorsal spine and the unusual length of the straightly extended frontal horn; but it is only a few months since I found it to be the offspring of the same *Porcellana* whose extraordinary parasites I described in my recent memoirs†. In the mean time I met with opportunities of examining the young brood of two other *Porcellanidæ*. One of these is a smaller *Porcellana* with a nearly circular carapace, which occurs rarely on rocks amongst Polypes and Polyzoa; the other (Pl. I. figs. 1–3) lives parasitically upon some species of Starfishes, and differs so much from the true *Porcellanæ* in its whole appearance, in its claws, and especially in the shortness of the external antennæ, that I regard it as the representative of a peculiar genus, and call it *Porcellina stellicola* ‡.

As these *Porcellana*-larvæ agree in all essential characters with the *Zoëa*-form of the young Crabs, I leave their detailed description for a larger work on the young state of the Crabs, for which I have long been collecting materials, and confine myself at present to a superficial description of their structure.

The carapace is of an oval form, and covers not only the upper part and sides of the anterior unsegmented part of the body, but also the first five segments of the abdomen. From its anterior margin issues a straight spine or horn, which is as much as five times the length of the carapace (three times in the smaller *Porcellana*). Two similar spines extend straight backwards from the hinder margin of the carapace; these are usually parallel, but sometimes divergent in *Porcellina*; in the smaller *Porcellana* (fig. 10), in which they attain only two-thirds the length of the carapace, they are slightly bent downwards at the apex, and bear, near their origin, a considerable spine directed

* Translated by W. S. Dallas, F.L.S., from Wiegmann's Archiv, 1862, p. 194.

† See Annals, July and August 1862.

‡ Another *Porcellana* (*P. Creplinii*, n. sp.) is still more singular in its mode of life: it resides in pairs in the tube of *Chætopterus pergamentaceus*.